

REGULATORY ANALYSIS

DRAFT REGULATORY GUIDE (DG) -4014 “DECOMMISSIONING PLANNING DURING OPERATIONS”

Statement of the Problem

The “Decommissioning Planning Rule” (ML103510117) is a new rule in which the U.S. Nuclear Regulatory Commission (NRC) amended portions of 10 CFR Parts 20, 30, 40, 50, 70 and 72 to improve decommissioning planning and reduce the likelihood that any currently operating facility will become a “legacy site.” A legacy site is a facility that is decommissioning and has an owner who cannot complete the decommissioning work for technical or financial reasons. There is no existing NRC guidance that addresses the new requirements of this rule for all licensee types.

Past experience indicates two contributing factors to licensees’ inability to fund decommissioning: (1) licensees’ underestimation of residual radioactivity during operations; and (2) insufficient funds assigned by the licensee to the financial instrument used as an assurance to complete decommissioning. For all licensees, lowering the risk of becoming a legacy site is an important regulatory topic that is best addressed during facility operations when there is time to plan and assure adequate funds for decommissioning.

Facilities that use radioactive liquids and gasses in their processes have the potential for contaminating the environment and need to identify the residual radioactivity as required in amended Title 10, Sections 20.1406 and 20.1501, of the *Code of Federal Regulations* (10 CFR 20.1406 and 20.1501).

Objective

The objective of this regulatory action is to provide consistent guidance to all licensees on how to comply with the requirements of the Decommissioning Planning Rule to minimize contamination at a site, conduct appropriate radiological surveys, maintain records, and determine whether existing decommissioning financial assurance is adequate.

Alternative Approaches

The NRC staff considered the following alternative approaches:

- Do not issue a new regulatory guide.
- Revise Regulatory Guide 4.21.
- Issue a new regulatory guide.

Alternative 1: Do Not Issue a New Regulatory Guide

Under this alternative, the NRC would not issue additional guidance, and the current guidance would be retained. If the NRC does not take action, there would not be any changes in costs or benefits to the public, licensees, or the NRC. However, the “no-action” alternative would not address identified concerns with the absence of NRC guidance. The NRC would continue to review each facility on a case-by-case basis. This alternative provides a baseline condition from which any other alternatives will be assessed.

Alternative 2: Revise Regulatory Guide 4.21

Under this alternative, the NRC would revise Regulatory Guide 4.21, “Minimization of Contamination and Radioactive Waste Generation; Life-Cycle Planning,” taking into consideration the differences in the initial conditions of facilities addressed. Regulatory Guide 4.21 addresses facilities that have not yet been constructed and provides guidance on design features to meet the requirements of 10 CFR 20.1406(a) and (b). The new guide addresses similar requirements, but for facilities that have already begun operations.

Alternative 3: Issue a New Regulatory Guide

Under this alternative, the NRC would issue a new regulatory guide, taking into consideration the differences between facilities in the design phase and those that have already begun operating.

Comparison of Alternatives

For Alternative 2, one benefit is that it would provide a single guide to address all phases of facility life, from design to license termination. The value to NRC staff and its applicants would be the benefits associated with enhanced efficiency and effectiveness in using a common guidance document as the technical basis for license applications and other interactions between the NRC and its regulated entities. One impact on the industry would be the need to separate the two sets of requirements that would exist in the same document for different facilities. Regulatory Guide 4.21 is relatively new, and the industry is just adopting it. Changing Regulatory Guide 4.21 at this time could create confusion and delays in implementing it, thereby reducing its effectiveness. An impact on the NRC would be the costs associated with preparing and issuing the revision to the regulatory guide. The impact on the public would be the voluntary costs associated with reviewing and providing comments to the NRC during the public comment period.

For Alternative 3, one benefit is that it would retain the distinction between requirements for design features of a new facility and operational consideration for existing facilities. This would reduce potential licensee confusion between the sets of instructions. The value to NRC staff and its applicants would be the benefits associated with enhanced efficiency and effectiveness in using specific guidance as the technical basis for interactions between the NRC and its regulated entities. The impact on the NRC would be the costs associated with preparing and issuing the regulatory guide. The impact on the public would be the voluntary costs associated with reviewing and providing comments to the NRC during the public comment period.

Conclusion

Based on this regulatory analysis, the NRC staff concludes that the benefits of distinct guidance for existing facilities, separate from that for facilities not yet constructed (Alternative 3), are greater than the benefits of a single guide that addresses different phases of facility life (Alternative 2). As noted above Regulatory Guide 4.21 is new and industry is currently adopting it. Thus, changing Regulatory Guide 4.21 at this time could create confusion and delays in implementing it, thereby reducing its effectiveness. This was an important consideration in the decision to develop separate guidance for operating facilities. The staff also concludes that the benefits of having guidance outweigh the impacts of developing it. Therefore, the staff recommends issuing a new regulatory guide. The staff concludes that the proposed action will enhance the ability of the licensees to comply with the requirements of the Decommissioning Planning Rule.